semi-full dicing a semiconductor wafer so as to leave a dicing residual portion with a predetermined thickness between devices on the semiconductor wafer;

forming a protective layer having a chemical etching resistant property on an element formation face of the semiconductor wafer; and

chemically etching the semiconductor wafer having the protective layer formed on the element formation face from the rear face side so as to polish the rear face of the semiconductor wafer, to remove the dicing residual portion to divide the semiconductor wafer into individual semiconductor chips, and to remove damaged areas in a cut face of the semiconductor wafer resulting from the semi-full dicing process.

2. (Amended) The manufacturing method for a semiconductor device as defined in claim 1, further comprising the step of:

prior to the semi-full dicing step, carrying out an electrical test on the semiconductor wafer by means of probing.

3. (Amended) The manufacturing method for a semiconductor device as defined in claim 1, further comprising the step of:

removing the protective layer from the semiconductor chips after the chemical etching step.

4. (Amended) The manufacturing method for a semiconductor device as defined in claim 1, wherein in the semi-full dicing step, the semiconductor wafer is subjected to semi-full

dicing from the element formation face so as to leave a dicing residual portion with a predetermined thickness on the rear face side of the semiconductor wafer.

5. (Amended) The manufacturing method for a semiconductor device as defined in claim 4, wherein the protective layer is formed on the element formation face of the semiconductor wafer.

6. (Amended) The manufacturing method for a semiconductor device as defined in claim 1, wherein in the semi-full dicing step, the semiconductor wafer is subjected to semi-full dicing from the rear face so as to leave a dicing residual portion with a predetermined thickness on the element formation face side of the semiconductor wafer.

7. (Amended) The manufacturing method for a semiconductor device as defined in claim 6, wherein the protective layer is formed on the element formation face of the semiconductor wafer.

8. (Amended) A manufacturing method for a semiconductor device comprising the steps of:

polishing a rear face of a semiconductor wafer that is opposite to an element formation face of the semiconductor wafer;

semi-full dicing the semiconductor wafer so as to leave a dicing residual portion with a predetermined thickness between devices on the semiconductor wafer;

forming a protective layer having a chemical etching resistant property on the element formation face of the semiconductor wafer; and

chemically etching the semiconductor wafer having the protective layer formed on the element formation face from the rear face side so as to remove damaged areas on the rear face of the semiconductor wafer resulting from the rear-face polishing step, to remove the dicing residual portion to divide the semiconductor wafer into individual chips, and to remove damaged areas in a cut face of the semiconductor wafer resulting from the semi-full dicing step.

9. (Amended) The manufacturing method for a semiconductor device as defined in claim 1, wherein the protective layer is a film.

10. (Amended) The manufacturing method for a semiconductor device as defined in claim 1, wherein the protective layer is a chemical etching resistant film of an ultraviolet separation type, which has a reduction in adhesive strength upon irradiation with ultraviolet rays.

11. (Amended) The manufacturing method for a semiconductor device as defined in claim 1, wherein the protective layer is a chemical etching resistant film of a thermal type, which has a reduction in adhesive strength upon application of heat.

13. (Amended) The manufacturing method for a semiconductor device as defined in claim 1, further comprising holding the protective layer with a uniform tension during the chemical etching step.

14. (Amended) The manufacturing method for a semiconductor device as defined in claim 13, wherein the uniform tension is maintained on said protective layer by a protective layer holding means placed on a surface of said protective layer that is opposite to the surface of said protective layer on which the semiconductor wafer is affixed.

15. (Amended) The manufacturing method for a semiconductor device as defined in claim 13, wherein the uniform tension is maintained on said protective layer by a protective layer holding means placed on the same surface of said protective layer as the semiconductor wafer.

16. (Amended) The manufacturing method for a semiconductor device as defined in claim 1, further comprising placing a protective layer holding means having a chemical etching resistant property on a peripheral portion of the protective layer so as to surround the entire circumference of the semiconductor wafer.

17. (Amended) The manufacturing method for a semiconductor device as defined in claim 16, wherein the protective layer holding means has a ring shape with a flat bonding face for bonding with the protective layer.

18. (Amended) The manufacturing method for a semiconductor device as defined in claim 17, wherein the protective layer holding means has a draining means for draining etchant remaining inside the protective layer holding means during the chemical etching step.

19. (Amended) The manufacturing method for a semiconductor device as defined in claim 18, wherein the draining means is formed as grooves extending in a radial manner.

Please add the following new claims 20-42:

--20. A method of manufacturing a semiconductor device, comprising:

dicing a semiconductor wafer by cutting grooves to a predetermined depth into a first face thereof;

forming a protective layer resistant to chemical etching on a second face of the semiconductor wafer; and

chemically etching the semiconductor wafer having the protective layer formed thereon so as to simultaneously polish the first face of the semiconductor wafer, remove residual portions of the semiconductor wafer resulting from cutting the grooves to thereby divide the semiconductor wafer into individual semiconductor chips, and remove damaged areas on portions of the semiconductor wafer exposed by the dicing.

21. The method as defined in claim 20, further comprising:

removing the protective layer from the semiconductor chips after the chemical etching.

22. The method as defined in claim 21, wherein the protective layer is removed using irradiation.

23. The method as defined in claim 21, wherein the protective layer is removed using heat.

24. The method as defined in claim 20, wherein the semiconductor wafer having the protective layer formed thereon is chemically etched by immersion into an etchant.

25. The method as defined in claim 20, wherein the semiconductor wafer having the protective layer formed thereon is chemically etched by dispensing an etchant onto the first face of the semiconductor wafer.

26. The method as defined in claim 20, wherein the second face of the semiconductor wafer is an element formation face.

27. The method as defined in claim 20, further comprising:

arranging the semiconductor wafer having the protective layer formed thereon on a carrier frame prior to the chemical etching.

28. The method as defined in claim 20, further comprising:

maintaining uniform tension on the semiconductor wafer having the protective layer formed thereon during the chemical etching.

29. A method of manufacturing a semiconductor device, comprising:

polishing a first face of a semiconductor wafer;

dicing the semiconductor wafer by cutting grooves to a predetermined depth into a second face thereof;

forming a protective layer resistant to chemical etching on the second face of the semiconductor wafer; and

chemically etching the semiconductor wafer having the protective layer formed thereon so as to simultaneously remove portions of the first face of the semiconductor wafer damaged by the polishing, remove residual portions of the semiconductor wafer resulting from cutting the grooves to thereby divide the semiconductor wafer into individual semiconductor chips, and remove damaged areas on portions of the semiconductor wafer exposed by the dicing.

30. The method as defined in claim 29, further comprising:

removing the protective layer from the semiconductor chips after the chemical etching.

31. The method as defined in claim 30, wherein the protective layer is removed using irradiation.

32. The method as defined in claim 30, wherein the protective layer is removed using heat.

33. The method as defined in claim 29, wherein the semiconductor wafer having the protective layer formed thereon is chemically etched by immersion into an etchant.

34. The method as defined in claim 29, wherein the semiconductor wafer having the protective layer formed thereon is chemically etched by dispensing an etchant onto the first face of the semiconductor wafer.

35. The method as defined in claim 29, wherein the second face is an element formation face of the semiconductor wafer.

36. A method of manufacturing a semiconductor device, comprising:

forming a protective layer resistant to chemical etching on a first face of a semiconductor wafer;

dicing the semiconductor wafer by cutting grooves to a predetermined depth into a second face thereof; and

chemically etching the semiconductor wafer having the protective layer formed thereon so as to simultaneously polish the second face of the semiconductor wafer, remove residual portions of the semiconductor wafer resulting from cutting the grooves to thereby divide the

semiconductor wafer into individual semiconductor chips, and remove damaged areas on portions of the semiconductor wafer exposed by the dicing.

37. The method as defined in claim 36, further comprising:

removing the protective layer from the semiconductor chips after the chemical etching.

38. The method as defined in claim 37, wherein the protective layer is removed using irradiation.

39. The method as defined in claim 37, wherein the protective layer is removed using heat.

40. The method as defined in claim 36, wherein the semiconductor wafer having the protective layer formed thereon is chemically etched by immersion into an etchant.

41. The method as defined in claim 36, wherein the semiconductor wafer having the protective layer formed thereon is chemically etched by dispensing an etchant onto the second face of the semiconductor wafer.

42. The method as defined in claim 36, wherein the first face is an element formation face of the semiconductor wafer.--